MULTIMEDIA UNIVERSITY

STUDENT IDENTIFICATION NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER T2 2019/ 2020

BIA7114 – INVESTMENT ANALYSIS

(MBA Full Time)

15 JANUARY 2020
9.00 a.m. – 12.00 p.m.
(3 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **ELEVEN (11)** pages (including the cover page).

2. Answer **ALL** questions. The mark distributions are given in parentheses.

3. Write all your answers in the **Answer Booklet** provided.

Question 1

Please read the news below and answer the following questions (i), (ii) and (iii).

SEP 30 2019
Global Asset Allocation Views 4Q19 by John Bilton

Themes and implications from the Multi-Asset Solutions Strategy Summit
In brief

The global economy is stuck in a phase of subtrend growth. While the U.S. consumer sector is healthy, weakness in global trade and manufacturing dampens the global growth outlook and increases tail risks.

We keep a modest underweight to stocks, given continued headwinds to earnings, and trim credit back to neutral, given a deterioration in corporate fundamentals. A small overweight to USD cash presents us with some dry powder to deploy should the outlook brighten.

In equities, we prefer U.S. over Europe and emerging markets, and remain cautious on small cap equities, where earnings expectations still look too optimistic. U.S. Treasuries are our preferred government bond market, and in credit we reduce U.S. and European high yield exposure in favor of investment grade credit.

TWO ISSUES HAVE DOMINATED THE ECONOMIC NARRATIVE IN 2019: TRADE AND MONETARY POLICY. So much so that all of the major gyrations in markets over the year can be linked to one or both of them. Rolling one-year returns on global equities are roughly flat – implying something of an offset between the two factors – whereas bond yields are a lot lower. Clearly, policy easing has a disproportionate effect in driving yields down, but equally today's level of yields and the forward pricing of future rate cuts suggest that bond markets are expressing a rather more cautious view on growth than are stocks.

Our base-case view is that the economy will grow at a slightly subtrend rate over the next few quarters, and while tail risks have undoubtedly risen we can see a path to a modest reacceleration in growth toward the middle of 2020. To be clear, the economy remains in late cycle, and despite easy policy we do not see a rerun of the synchronized and substantial upswing to global growth that investors enjoyed in 2017.

The crux of the issue for asset markets, and especially equity markets, is that although growth on some metrics – notably U.S. consumer data – is robust, the sectors of the global economy to which stocks are most exposed are doing distinctly less well. The escalation of tensions between the U.S. and China is weighing not only on global trade but also on capex data. External factors such as the technology development cycle are also a drag, and the weakness in export- and trade-geared economies such as Germany and South Korea in 2019 is a cause for concern.

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Weakness in manufacturing and concerns over trade likely warranted easier monetary conditions, but they may yet come at a cost. In the U.S., the pricing of cuts may have run ahead of itself, leaving scope for disappointment in some asset markets if the Federal Reserve (Fed) does not follow through. In Europe, persistently low long-term inflation expectations were reason enough for easing, but it is unclear yet if the banking sector is sufficiently insulated from the ravages of even more negative cash rates. In this context, the sharp drop in bond yields appears a little more justified than does the spectacle of stock markets making new highs, and this also informs our continued cautious stance in portfolios.

We retain the modest underweight (UW) to stocks that we adopted last November, but despite the sharp rally in bonds over the summer we stay neutral on duration. Our quant models are signaling some caution on duration, and there are modest upside risks to yields from mortgage convexity hedging and refi- nancing activity, but these are likely balanced by new duration demand from central banks. Over the last year, U.S. high yield (HY) credit returns have beaten U.S. large cap equity returns (6.6% vs. 4.3% on a rolling one-year basis), but with default rates beginning to pick up and fundamentals deteriorating we are trimming our credit overweight (OW) to neutral. The other notable change in our allocation is to bring USD cash back to a slight OW, reflecting in equal measure a little caution and a desire to have dry powder to deploy should the economic outlook brighten.

Our U.S. bias in most asset markets remains in place. Tempting though it may be to call time on the outperformance of U.S. equities, and the growth/quality tilt in general, we firmly believe that for value to rebound persistently, and for regions like Europe and emerging markets to outperform, we would need to see a path to higher global yields. Given our expectation of subtrend growth and policy accommodation, this points to U.S. equities continuing to set the pace. In bonds, too, the higher yield available on U.S. Treasuries (USTs) reinforces our relative preference for U.S. government debt, though we would acknowledge it is a little less pronounced than it has been in recent quarters. In credit, we trim our exposure to high yield, choosing to diversify our exposures with investment grade (IG) and securitized credit.

Overall, our portfolios reflect our slightly cautious view of the world. It is late in the cycle, which implies tail risks have risen, but they've risen in the right tail as well as the left. Given our cautious tilts, we continue to scrutinize data for signs of a pickup in leading indicators for global manufacturing, capex and trade that could fuel a sustained rebound in cyclical assets such as eurozone and emerging market (EM) equities. Meanwhile, a little cash on the sidelines grants us the scope to seize opportunities more dynamically as, and when, they appear.
(Source: J.P. Morgan Asset management, 2019)

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(i) Explain global asset allocation and why it is important. (10 marks)

(ii) Explain multi-asset class investment and list the possible assets included. What is the trade-off between risk and return for this type of investment? (10 marks)

(iii) Should asset class realignment be dynamic? (5 marks)

(Total: 25 marks)

Question 2

Read the excerpt below and answer the following questions (i), (ii) and (iii).

Calendar anomalies in the Russian stock market

Introduction

There is a large body of literature testing for the presence of calendar anomalies (such as the "day-of-the-week", "day-of-the-month" and "month-of-the-year" effects) in asset returns. Evidence of these types of anomalies has been seen as inconsistent with the efficient market hypothesis (EMH —see Fama, 1965), since it would imply that trading strategies that exploit them can generate abnormal profits. However, a serious limitation of many studies on this topic is that they neglect transaction costs: broker commissions, spreads, payments and fees connected with the trading process may significantly affect the behavior of asset returns. Calendar anomalies might disappear once transaction costs are taken into account, the implication being that in fact there are no exploitable profit opportunities based on transaction costs.

The present study examines calendar anomalies in the Russian stock market by incorporating transaction costs in the estimated models (following Gregoriou et al., 2004 and Caporale et al., 2016), and therefore, it expands previous studies on anomalies in this market, such as Compton et al. (2013), not taking into account transaction costs. Specifically, four models are estimated: OLS, GARCH, TGARCH and EGARCH.

The structure of the note is as follows: Section 2 briefly reviews the literature on calendar anomalies; Section 3 describes the data and outlines the methodology; Section 4 presents the empirical findings; Section 5 offers some concluding remarks

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2. Literature review

The existence of a January effect had already been highlighted by studies such as Rozeff and Kinney (1976) and Lakonishok and Smith (1988) using long series to avoid the problems of data snooping, noise and selection bias, and finding evidence of various calendar anomalies, namely January, day-of-the-week and turn-of-the-month (TOM) effects. Thaler (1987) reported that the January effect mainly characterizes shares

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of small companies, while Kohers and Kohli (1991) concluded that it is also typical of shares of large companies. Cross (1973) was one of the first to identify a day-of-the-week effect. Gibbons and Hess (1981) found the lowest returns on Mondays and the highest on Fridays. Mehdian and Perry (2001) showed a decline of this anomaly over time.

Most existing studies, such as the ones mentioned above, concern the US stock market. Only a few focus on emerging markets. For instance, Ho (2009) found a January effect in 7 out of 10 Asia-Pacific countries. Darrat et al. (2013) analyzed an extensive dataset including 34 countries and reported a January effect in all except three of them (Denmark, Ireland, Jordan). Yalcin and Yucel (2003) analyzed 24 emerging markets and found a day-of the-week effect in market returns for 11 countries and in market volatility in 15 countries. Compton et al. (2013) focused on Russia and discovered various anomalies (January, day-of-the-week and TOM effect) in the MICEX index daily returns. Transaction costs were first taken into account by Gregoriou et al. (2004), who estimated an OLS regression as well as a GARCH (1,1) model and concluded that calendar anomalies (specifically, the day-of-the-week effect) disappear when returns are adjusted using transaction costs. More recently, Caporale et al. (2016) reached the same conclusion in the case of the Ukrainian stock market using a trading robot approach.

Damodaran (1989) argued that the main reason for the weekend effect (low returns on Mondays and high returns of Fridays) is the arrival of negative news at the beginning of the week. However, Dubois and Louvet (1996) found that in other markets such as France, Turkey, Japan, Singapore and Australia, the highest negative returns appear on Tuesdays; this may be explained by the fact that these markets are influenced by negative news in the U.S. with a one-day lag. Keef and McGuinness (2001) suggested that the settlement procedure could be the explanation for negative returns on Mondays (see also Raj and Kumari, 2006); however, these might differ across countries. Rystrom and Benson (1989) argued that investors are irrational and their sentiments vary on different days of the week, which might explain the day-of-the week effect. Finally, Pettengill (2003) claimed that they behave differently on Mondays because of scare trading, with informed investors shorting because of negative news from the weekend.
(Source: Caporale, G.M. and Zakirova, V. (2019) Calender anomalies in the Russian stock market, Russian Journal of Economics, Vol. 3, Issu 1, pp. 101-108.

(i) The above study examines the calendar anomalies of Russian stock market. Explain efficient market hypothesis (EMH). Explain the form of EMH that the authors are investigating. (10 marks)

(ii) Other than calendar anomalies as tested in the study, discuss TWO other market anomalies that had been tested in the literature. (10 marks)

(ii) If you were the proponent of EMH, what will be your strategy to invest? (5 marks)

(Total: 25 marks)

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Question 3

(a) Discuss how security valuation is important to portfolio management. (8 marks)

(b) Asset return can be explained by asset pricing model. Provide two main differences between arbitrage pricing model and capital asset pricing model. (8 marks)

(c) There are three factors under Fama and French three-factor model. Explain the three factors. (9 marks)

(Total: 25 marks)

Question 4

(a) Read the information below carefully and answer the question.

Company information on Bumi Armada

Bumi Armada Berhad provides international offshore oilfield services. Bumi Armada is engaged in the provision of marine transportation, floating production storage and offloading system (FPSO) operations, vessel construction, and engineering and maintenance services to offshore oil and gas (O&G) companies. The company provides services through its ownership and operation of marine assets across the O&G value chain; from exploration through to field development and construction, production and operations and eventually, decommissioning. Bumi Armada was founded in 1995 and based in Kuala Lumpur, Malaysia. The company is listed on Bursa Malaysia under the Main Market.

(Source: EMIS, 2019)

Bumi Armada posts strong results
CORPORATE NEWS
Saturday, 31 Aug 2019

Bumi Armada Bhd has reported a strong set of financial results with a net profit of RM78.21mil in the second quarter ended June 30 compared with net loss of RM585.40mil a year ago. The international offshore energy facilities and services provider in a filing with the exchange yesterday said its revenue was RM535.64mil, down 18.1% from RM654.04mil a year ago. Earnings per share were 1.33 sen compared with a loss per share of 9.97 sen.

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"Firm orderbook at the end of the second quarter of 2019 was approximately RM18.9bil, with additional optional extensions of up to RM9.9bil," it said. The floating production & offloading (FPO) business generated revenue of RM443.6mil with the increase over the Q1 FY19 coming from higher contributions from Armada Kraken FPSO floating production storage & offloading (FPSO) and Armada Olombendo FPSO.

Bumi Armada's net profit of RM78.2mil in Q2,2019 was a 25.7% increase over Q1's RM62.21mil. Bumi Armada executive director and CEO Gary Christenson said in Q2, there was a noticeable improvement in the performance of Armada Kraken FPSO, which helped the overall FPO revenue.

The other FPO assets continued to deliver stable performances. "The OMS business saw a noticeable improvement in the offshore support vessels fleet utilisation, mainly due to higher demand in Malaysia.

The subsea construction vessels in the Caspian Sea however, continue to seek new contracts.

"Over the rest of 2019 the group will continue to focus on the initiatives highlighted previously, namely safety, operational performance improvements and various financial efficiencies, including selective asset disposals."

In the first half, its net profit was RM140.42mil compared with net loss of RM537.06mil. Revenue was RM1.02bil compared with RM1.25bil.

(Source: The Star Online, 31 August 2019)

Usaha Tegas gives Bumi Armada a RM317m lifeline

Units receive commitments for said amount from MENV

KUALA LUMPUR: Billionaire T Ananda Krishnan's private investment vehicle, Usaha Tegas Sdn Bhd, gave troubled Bumi Armada Bhd a lifeline by offering loans of up to US$75 million (RM317 million).

Usaha Tegas is Bumi Armada's single largest shareholder with a 34.9% stake via Objektif Bersatu Sdn Bhd.

In a Bursa Malaysia filing yesterday, the loss-making offshore energy facilities and services provider said its wholly-owned units — Bumi Armada 98/2 Holdings Pte Ltd (BA98/2) and Armada Floating Gas Storage Malta Ltd (AFGSM) — have received financing commitments for the said amount from Mezzanine Equities NV (MENV), a wholly-owned unit of Usaha Tegas.

According to the filing, the funds comprise a three-year term loan facility of up to US$30 million (RM128 million) to BA98/2 and a six-year term loan facility of up to US$45 million (RM189 million) to AFGSM.

The BA98/2 facility will fund Bumi Armada's 30% equity interest in a joint-venture project with Shapoorji Pallonji Oil & Gas Pte Ltd in relation to a floating production storage and offloading (FPSO) facility contract in India.

Bumi Armada said security for the BA98/2 facility is based on its 30% interest in the project.

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MENV has also been granted options to acquire Bumi Armada's 30% interest in the project at fair market value as determined by an independent valuer.
The options may be exercised by MENV at any time within 36 months from the date of grant or until the BA98/2 facility has been fully repaid, whichever is longer.
However, the exercise of the options is subject to the approvals of Bumi Armada shareholders and/or other relevant consents being obtained.
Bumi Armada may sell its interest in the project to any third party during the option period, subject to obtaining MENV's consent.
All proceeds arising from a valid exercise of the options must be applied towards repayment of the BA98/2 facility, said Bumi Armada.
Meanwhile, the AFGSM facility is intended for the refinancing of its existing US$45 million bridge loan facility for a floating storage unit (FSU), which is currently servicing a long-term charter contract with ElectroGas Malta Ltd. Security for the facility is based on certain project assets, including a mortgage over the FSU and an assignment over AFGSM's rights under the FSU charter contract.
Bumi Armada said the facilities are not expected to have any material effect on the group's earnings for the financial year ending Dec 31, 2019 (FY19).
For FY18, Bumi Armada recorded a net loss of RM2.3 billion, versus a net profit of RM352.2 million for FY17, mainly due to the impairment of Armada Kraken FPSO and certain offshore support vessels, allowances for impairment losses and higher finance costs.

(Source: The Edge Financial Daily, September 27, 2019)

Financial information on Bumi Armada (data last updated 08 November 2019)

Financial Indicator (Actual)

Gross Margin (%)	20.72
ROE (%)	-51.98
Price Sales Ratio	1.09
PER	--
PBR	0.79

Per Share Indicator

Total Revenue/share (MYR)	0.41
EPS (MYR)	-0.39
Net asset/share (MYR)	0.57
Cash flow/share (MYR)	-0.31
DPS (MYR)	0

(Source: The website of Rakutan Trade, 2019)

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Ratios & Margins Bumi Armada Bhd ended 31 December 2018

Valuation	**Profitability**
P/E Ratio (TTM) -	Gross Margin +27.62
P/E Ratio (including extraordinary items) -1.63	Operating Margin +20.77
Price to Sales Ratio 0.38	Pretax Margin -94.96
Price to Book Ratio 0.27	Net Margin -95.21
Price to Cash Flow Ratio 0.78	Return on Assets -13.39
Enterprise Value to EBITDA 11.75	Return on Equity -51.98
Enterprise Value to Sales 5.41	Return on Total Capital 3.26
Total Debt to Enterprise Value 1.03	Return on Invested Capital
Total Debt to EBITDA 10.29	
EPS (recurring) -0.10	
EPS (basic) -0.39	
EPS (diluted) -0.39	
Efficiency	**Capital Structure**
Revenue/Employee -	Total Debt to Total Equity 308.81
Income Per Employee -	Total Debt to Total Capital 75.54
Receivables Turnover 1.75	Total Debt to Total Assets 66.78
Total Asset Turnover 0.14	Interest Coverage 0.97
	Long-Term Debt to Equity 98.63
	Long-Term Debt to Total Capital 24.13
	Long-Term Debt to Assets 0.21
Liquidity	
Current Ratio 0.30	
Quick Ratio 0.30	
Cash Ratio 0.14	

(Source: The Wall Street Journal, 2019)

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Discuss your investing decision on Bumi Armada based on company analysis.
(15 marks)

(b) Differentiate between active and passive portfolio management.
(10 marks)

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SELECTED EQUATIONS

1) $$\text{Variance} = \frac{\sum_{i=1}^{n} [\, R_i - E(R) \,]^2}{n}$$

2) $$\text{Standard deviation} = \sqrt{\text{Variance}}$$

3) $$COV_{AB} = \sum_{i=1}^{n} [(\, R_{Ai} - E(R_A))\,(R_{Bi} - E(R_B))]\, P_i$$

4) $$E(R_{port}) = \sum_{i=1}^{n} W_i\, E(R_i)$$

5) $$\text{Correlation}_{AB} = \frac{COV_{AB}}{\sigma_A \sigma_B}$$

6) $$\beta eta_i = \frac{COV\,(\, R_i, R_m)}{\sigma^2(R_m)}$$

7) $$R_i = RFR + \beta_i (\, R_m - RFR)$$

8) $$\sigma_{port} = \sqrt{W_1^2\sigma_1^2 + W_2^2\sigma_2^2 + 2W_1W_2r_{1,2}\sigma_1\sigma_2}$$